# How to Read a Seed Packet

**Theme**
Reading Seed Packets

**Subjects**
Science

**Prep Time**
10 Minutes

**Learning Environment**
Garden

**Lesson Time**
50 Minutes

**Grade**
K-8

**Role of Teacher**
Classroom management

## Materials

### Ingredients

- N/A

### Equipment

- Different packets of seeds / pictures of the front and back of a packet of seeds (enough for each student)

## Background Information

- A seed contains the beginnings of a new plant. In simple terms, seeds contain three main parts – the outer seed coat, an embryo (or immature plant) and a large food store.

- Seeds remain in a stage of dormancy until presented with the proper conditions for germination. In order for seeds to successfully germinate, they require water, oxygen, and the appropriate temperature range. A seed’s optimal temperature range depends on the type of plant. Spinach seeds can germinate under cooler conditions, while tomato seeds require warmer temperatures.

- Once environmental conditions are favorable for germination, the protective seed coat begins to dissolve and the embryonic root (also called the radicle) emerges from the seed. As this root grows downward in search of water and soil nutrients, two aboveground plant parts emerge – the stem (hypocotyl) and seed leaves (cotyledons). Once a seed exhausts its food store, it is considered an established seedling. From here on out, the plant is on its own.

- In order to sustain growth over time, seedlings require adequate access to sun, soil, water, and air. If any of those essential elements are missing, the plant will not survive.

- Plants require sunlight in order to produce food through photosynthesis. Soil supplies the plant with water and mineral nutrients for growth. Plants use water to transport nutrients between the root system and leaves. Plants require carbon dioxide present in the air for photosynthesis. Other important factors also affect growth, such as proper spacing and a plant’s preferred temperature range.
Topics / Goals / Learning Objectives

• To understand how to read a seed packet.
• To learn new vocabulary found on a seed packet.
• To learn the different parts of a seed.

Opening / Hook

Welcome to the garden! Today we are going to be getting ready to plant in our garden that we’ve been preparing for all year long! All of our composting, double digging, seed starting, and cover crop sowing has been leading up to this! We have many transplants that we started inside, and many packets of seeds waiting for be sown. But before we begin, let’s take a close look at our seed packets. Take a moment to investigate all of the information you see on the packet. (Allow time for the students to explore.)

What are some of the things you see? What are some of the words you know? Are there any words that you don’t know? What different kinds of pictures do you see on the seed packet? Why do you think they’re there? (Allow time for brainstorming and a discussion.)

It’s very important to know how to read a seed packet because it will tell you everything you’ll need to know when planting or transplanting in the garden. Plants need a certain amount of space, need to be planted at a certain depth in the soil, need a certain amount of sunlight or shade and water, plus much more. There are many factors to consider when planted seeds or transplants, but after today we will all be experts at reading seed packets! Let’s begin!

Procedures / Activities

Prep: Pass out a packet of seeds to each student (or a picture of the front and back of a packet of seeds if that many packets of seeds are not available) and a “How to Read a Seed Packet” worksheet.

1. Welcome students into the garden and introduce the lesson with the Opening above.

2. Bring the students’ attention to the worksheet and let them spend about 5 minutes (or more if needed) filling it out.

3. When students are finished filling out their worksheets, go over them together as a class. Some students might have different seed packets, so allow as many students to share their own answers as you’d like. This way the students can learn about other types of fruits/vegetables.

4. Ask the students if they’d feel comfortable planting from seed now that they’ve finished this activity. What did they learn that they didn’t know before? Are they still confused about anything?

5. After your discussion, instruct the students to turn their worksheet over and find a black seed packet. Have the students fill it in, making up their own fruits/vegetables/flowers, but following the general outline of what they would find on a real seed packet. This is a chance for them to be creative! Provide them with markers or coloring pencils.

6. If there is still time at the end of class, give the students the opportunity to share their seed packets with each other.

Extensions / Adaptations / Games

• Students can vote on the best seed packet.
Lesson Resources and/or Credit for Adaptation

Read About Seeds, Portland Partners for School Food and Garden Education. www.eatthinkgrow.org